ACN Report

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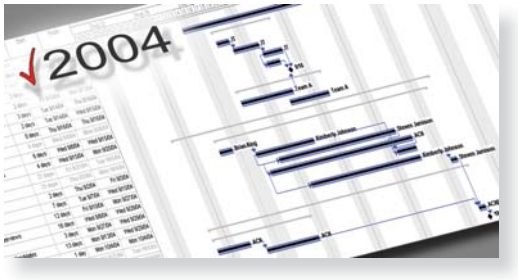
ACN Milestones Reached in 2004

The year 2004 may be quickly becoming a distant memory, but the National Communications System (NCS) does not want the Alerting and Coordination Network (ACN) community to lose sight of the milestones achieved last year. Before putting 2004 on the shelf for good, here's a recap of the milestones ACN recently completed.

Membership growth is always a good place to start. Last year, the NCS oversaw the installation of six new ACN sites. Specifically, ACN welcomed Americom, Cincinnati Bell Telephone 4th Street, Intrado, Inc., Level 3 Broomfield, Level 3 Atlanta, McLeodUSA and Verizon Dallas/Forth Worth into the network. By the year's end, ACN had 22 different members operating a total of 38 network sites.

Also in 2004, network administrators upgraded both of ACN's conference bridges and deployed a voice firewall. The conference bridges now have 120-port capability. Previously, the two bridges were equipped with 48 ports. The upgrade allows the bridges greater conference calling capacity.

Administrators implemented the voice firewall between ACN's private branch exchange (PBX) and the public switched network (PSN) in order to increase network



security. The firewall identifies, records and manages incoming and outgoing network traffic between PSN-connected circuits and the PBXs. It also prevents other outside networks from connecting to ACN. The voice

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Conference Call Procedures

How to Join the Monthly Test Call

You may have noticed that Alerting and Coordination Network (ACN) engineers recently doubled their efforts to conduct the monthly voice tests. As of January 2005, administrators perform individual line ring-downs in conjunction with conference call blast-out tests. Why the need for both tests? Individual ring-down tests best allow ACN administrators to evaluate each user's line independently. Blast-out testing, however, enables administrators to test the conference bridge by connecting all network members to a conference call. The blast-out test better simulates calling procedures that would be followed in the event of a real-life emergency.

Since network administrators recently reintroduced the blast-out test into monthly operations, now is a good time to review the procedure for joining a conference call.

As soon as an ACN administrator initiates a call, the network's conference bridge rings all members simultaneously. When you answer, an automated voice asks you to enter your Personal Identification Number (PIN). It is important to note that there may be up to a 30-second delay before you hear the automated voice. Right now, there is no indicator that you are on hold for the conference call.

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The Lowdown on VoIP

You have to wonder if Alexander Graham Bell realized what the telephone was in store for when he invented it back in 1876. In the decades since it first arrived on the scene, the phone has made quite a technological progression, from rotary to cellular and everything in between. Voice over Internet Protocol (VoIP) is the latest step in the evolution of telephony, and its popularity is on the rise.

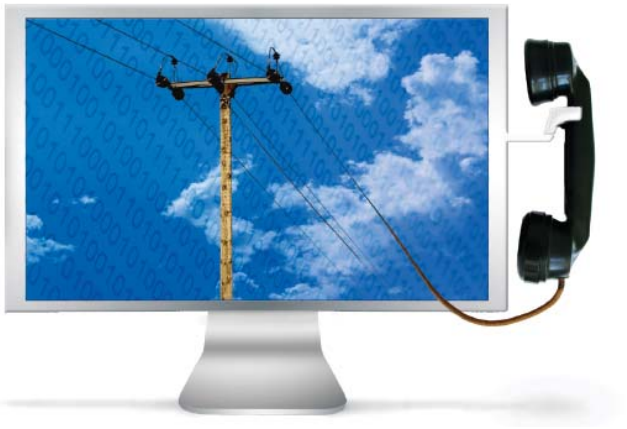
The concept of voice over the Internet is probably not new to you. As a member of the Alerting and Coordination Network (ACN), you know that VoIP allows you to make phone calls using a network data connection instead of a standard Public Switched Network (PSN) telephone line. VoIP technology converts your voice into digital packets that travel over a broadband network, such as ACN or the Internet. It then converts the digital signal back to analog at the other end.

So, what makes VoIP so appealing? Subscribers using VoIP over the Internet have the potential to cut back on monthly long distance charges associated with analog phones. The price to send data (such as e-mail or VoIP packets) over the Internet is the same whether it is traveling next door or across the country. Analog phone technology offers inherent benefits of its own; however, those benefits are beyond the scope of this article.

It is also relatively painless to transition from analog to VoIP. In addition to the physical phones themselves, a VoIP account and a high-speed connection such as DSL or a cable modem is all that is required. Customers switching from analog to VoIP services are able to keep their original telephone numbers if desired, and they can call analog and digital phones alike. Additionally, several VoIP applications allow users to receive voicemail as e-mail attachments (in the form of MP3 files) on home computers, palm pilots or other similar devices.

"...12 percent of all U.S.-based businesses were using VoIP technology by the end of 2004..."

Where is all this headed? In his remarks before the National Association of Regulatory Commissioners in March of 2004, then FCC Chairman Michael Powell stated that two percent of American-owned firms use IP telephony in some fashion. By the year 2007, Powell expects the number to jump to 19 percent. He also pointed out that there are signs both landline and wireless providers are shifting their focus toward packet telephony services, as organizations in both markets have either implemented or tested VoIP in their networks. In-Stat, a leading provider of communications research, assessments and market forecasts, reports that 12 percent of all United States-based businesses were using VoIP technology by the end of 2004. That number was only at three percent the previous year.

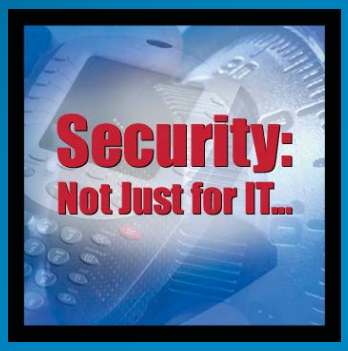


These trends are not exclusive to the corporate world; residential VoIP use is growing as well. According to Powell, 50 percent of all Internet-equipped residents in the United States are interested in replacing their local and long distance telephone services with VoIP. Gartner Inc., a technology consulting and research firm, reports that the number of U.S. residential VoIP phone subscribers totaled approximately 150 thousand at the end of 2003. One year later, the number rose to nearly one million, and by the end of 2009, 18 percent of all U.S. households will be using VoIP.

Telecommunications have come a long way since Mr. Bell's invention over 100 years ago, and VoIP is the latest advancement. As more and more people become aware of the benefits of Internet telephony, and as its equipment and services become more inexpensive, VoIP will become an increasingly common communication method. Accordingly, ACN will continue to operate on its years of experience using this innovative and exciting technology.

ACN Security Starts with You!

Christopher Leverich
Security Analyst



In recent issues of this newsletter, the security articles primarily focused on the measures Alerting and Coordination Network (ACN) administrators take to ensure the network's wellbeing. It is important to realize, however, that network administrators alone cannot guarantee the security of ACN: ACN security starts with you.

It may seem like securing ACN would be a fairly simple task since ACN equipment consists of a Voice over Internet Protocol (VoIP) phone and very little else. The network does not have a computer terminal you need to lock when you leave your chair, nor does it generate classified documentation you have to shred, but all the same, ACN is a network. And, just like any other network, its security can be compromised if appropriate steps aren't taken. As such, there is a lot of individual responsibility that comes along with being an ACN member. After all, ACN's mission is to provide a stable emergency communications network connecting telecommunications service providers' network and/or emergency operation centers when the public switched network is inoperable or congested. So, safeguarding ACN is important.

"...there is a lot of individual responsibility that comes along with being an ACN member..."

The first thing to remember is physical security. It is a good idea to ensure your ACN phone is not frequently left unattended and unsecured at the same time. Somebody should always be in the general vicinity of the VoIP phone, and if that isn't possible, the phone should be behind a locked door. The reason for this rule is simple: if an authorized person is constantly in the same room as the phone, or if the phone is locked up, the likelihood that an unauthorized person will be able to gain illicit access to that particular phone is all but eliminated.

Physical security is only one part of the equation though. Being aware of your surroundings is just as important. Whenever you are using ACN, please remember that ACN is a private, critical communications network. Before speaking over the ACN phone, survey your environment and ensure there are no unauthorized individuals without a "need to know" in earshot of your conversation.

Similarly, sensitive information about ACN should never be discussed casually or disclosed to people outside the network. Issues such as membership composition and standard operating procedures should never be divulged haphazardly.

ACN administrators take a number of precautions to secure the network, but they alone can't guarantee its protection. However, when administrators and ACN members work together as a security team, the network becomes an undesirable target that is twice as tough to penetrate.

Always remember, network security starts with you!

Mr. Leverich is a Security Analyst for Arrowhead Global Solutions, under contract to the NCS.

Milestones *continued from page 1*

firewall's real-time alert and call termination capabilities allow ACN to transmit instantaneous security event alerts.

Network administrators reached another milestone in 2004 by separating ACN from the Critical infrastructure Warning Information Network (CWIN), the network with which ACN shared certain components since CWIN's establishment in 2002. While both networks "share" IP-enabled network connectivity, each network operates dedicated PBXs, voice mail, conference bridges and other major network elements.

The last achievement of 2004 that the NCS would like to recognize is ACN's member responsiveness. As you are aware, every month ACN administrators conduct Voice over Internet Protocol (VoIP) ring-down tests to ensure the network's operational readiness. Line ring-down tests are a crucial means by which administrators assess each individual user's VoIP phone. The NCS would like to thank all members who helped make the monthly ring-down tests a success and encourage everyone to strive for an even greater response rate this year.

The telecommunications industry established ACN to provide an emergency voice communications network for Government use when the PSN became inoperable or congested. Two decades later, NCS assumed operational responsibility for the network and transformed it from analog to digital. As 2005 progresses, you can be certain that ACN will continue to adapt and adjust in order to continually fulfill its mission.

Did You Know?

Payphones have existed for 114 years. However, before their invention, customers used telephone stations. These were supervised by toll collecting telephone company attendants who then placed the customer's call.

William Gray invented the unattended coin-operated payphone and made it available for purchase in 1891. Gray's phone was "post-pay" machine; it collected coins after customers made their calls. By 1913, the three-slot payphone had replaced Gray's original version. The newer phone had coin slots for nickels, dimes and quarters, and it required users to deposit money before placing calls. In 1965, the more modern single-coin payphone ended the three-slot model's 52-year run.

Telephone companies had a monopoly over payphones for several decades. But, in 1984, the Federal Communications Commission (FCC) ruled that local phone companies had to incorporate competitors' payphones into their services, establishing the independent payphone industry. Currently, independent payphone service providers comprise 30 percent of the market in the United States.

Today, payphones have progressed considerably from Gray's original creation. Some now allow users to send faxes or connect to the Internet. Even in an age where cell phones are ubiquitous, there is something reassuring about a payphone that will not drop tower signals or run low on batteries. It is a comfort to know that reliable telecommunication service is never more than a phone booth away.

Conference Call *continued from page 1*

To eliminate any confusion surrounding this issue, engineers are working with the conference bridge manufacturer to add music or automated voice notification that will play immediately after the conference call is answered. In the interim, administrators of the conference call are sending reminder e-mails that include the date and time of each monthly blast-out test. Please take note of this information and anticipate the conference call, so that the initial 30-second delay does not cause confusion. ACN administrators ask that you please wait until the automated voice prompts you to enter your PIN.

After you have correctly entered your PIN, you are connected to the call and should officially announce your presence. You are then able to talk with any member who has also joined the conference.

Ordinarily, ACN administrators conduct both the individual line ring-down and the conference call blast-out on the 15th of each month. In cases where the 15th day of the month falls on a weekend, administrators perform both voice tests the following Monday. The National Communications System thanks you in advance for contributing to the continued success of both monthly tests.

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Monthly Test
15th of the month,
or the following Monday